

Applicant : Wenjian Gu et al.  
Serial No. : 09/928,775  
Filed : August 13, 2001  
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Attorney's Docket No.: 02103-415001 / AABOSS39

Amendments to the Specification:

Please replace the paragraph spanning pages 2 and 3, beginning at page 2, line 21 with the following amended paragraph:

With reference now to the drawing and more particularly to FIG. 1, there is shown a transformer assembly incorporating the invention. Transformer assembly 10 includes a core 12 consisting of two sections 12a and 12b. Primary winding 14 is wound around first core portion 12a, and secondary winding 16 is wound around second core portion 12b. Electrostatic shield 22 electrically isolates primary winding 14 from secondary winding 16 and also electrically isolates core first core portion 12a from second core portion 12b. Electrostatic shield 22 will be discussed more fully below. Plastic bobbin 24 may be provided to hold core portions 12a and 12b in place, to facilitate the formation of the primary and secondary windings, to provide connecting pins 24 for electrical connections to other devices, and to provide a mechanical support for the core portions 12a and 12b.

Please replace the paragraph spanning pages 5 and 6, beginning at page 5, line 12 with the following amended paragraph:

Switching power supply 42 includes a first rectifier 54 and a switching circuit 56 coupled to transformer 10 according to the invention. Transformer 10 includes an electrostatic shield 22 positioned between the two core portions 12a and 12b, and between the primary winding 14 and secondary winding 16, with the conductive pattern (28 of FIG. 3 or 36 of FIG. 4) facing primary winding 14 and first core portion 12a. Drain wire 30 connects conductive pattern (28 of FIG. 3 or 36 of FIG. 4) of electrostatic shield 22 to switching circuit 56. Optional second electrostatic shield 22' is positioned between two core portions 12a and 12b and between primary winding 14 and secondary winding 16, with the conductive pattern or layer (28 of FIG. 3 or 36 of FIG. 4) of electrostatic shield 22' facing secondary winding 16 and second core portion 12b. Drain wire 30' of electrostatic shield 22' connects conductive pattern to a common lead 49 to secondary winding 16. Terminals of secondary winding 16 are coupled to second rectifier 58, which is

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coupled to audio signal amplification and transduction circuitry [[16]] 46, which amplifies and transduces audio signals received from audio signal processor 48. The switching circuit 56 may modulate the voltage on the secondary windings 16 by a number of methods, including frequency modulation, pulse modulation, or pulse width modulation, and others. An alternative arrangement of the combination of electrostatic shield 22 and electrostatic shield 22' is a single electrically insulative substrate of sufficient thickness with a first conductive pattern or layer (28 of Fig. 3 or 36 Fig. 4) on a surface of the substrate facing first core portion 12a and primary winding 14 and a second conductive pattern or layer (28 of Fig. 3 or 36 Fig. 4) on a second surface of the substrate facing second core portion 12b and secondary winding 16.

Please replace the paragraph beginning at page 6, line 8 with the following amended paragraph:

In operation, rectifier 54 rectifies AC line electrical power to DC electrical power. Switching circuit 56 converts the DC electrical power to electrical pulses, typically of a significantly higher frequency than the AC line electrical power. Transformer 10 transforms the electrical pulses to a different, typically lower, voltage. Second rectifier 58 converts the high frequency output of transformer 10 to DC of an appropriate voltage to power audio signal amplification and transduction circuitry [[16]] 46. Audio signal amplification and transduction circuitry 16 amplifies and transduces audio signals received from audio signal processor 48. The voltage level at the output terminals of rectifier 58 is modulated by the switching circuit 56. Modulation may be done by a number of methods, including frequency modulation, pulse modulation, or pulse width modulation, and others. First electrostatic shield 22 and second electrostatic shield 22' shield conduct any capacitive displacement electrical currents back to the source of the electrical currents, thereby minimizing electro-magnetic radiation from transformer assembly 10.